WHAT IS CLAIMED IS:

1.   A MAC (Medium Access Control) control block for controlling transmission of data between a plurality of MAC clients and a plurality of MACs in an

5   Ethernet passive optical network (EPON), comprising:

a plurality of optical multipoint (OMP) blocks connected between the MAC clients and the MACs for implementing a multipoint control protocol (MPCP); and

a multipoint gating control block for selectively controlling the OMP blocks so that when any one of the OMP blocks is transmitting the data, the other OMP blocks are

10   prevented from transmitting data.

2.   The MAC control block of claim 1, wherein the multipoint gating control block determines transmission states of the MAC clients by receiving transmission_in_progress state variables from the OMP blocks connected to their

15   associated MAC clients and controls data transmission by the MAC clients by providing transmission enable state variables to the OMP blocks connected to their associated MAC clients.

3.   The MAC control block of claim 1, wherein the multipoint gating

20   control block determines a value of a transmission enable state variable by driving a timer indicating a transmission start time and a transmission stop time and provides a transmission opportunity by delivering the value to a corresponding OMP block.

4. A multipoint gating control method in a MAC (Medium Access Control) control block for controlling transmission of data between a plurality of MAC clients and a plurality of MACs in an Ethernet passive optical network (EPON), the method comprising the steps of:

determining transmission states of the MAC clients by receiving transmission_in_progress state variables from the OMP blocks connected to their associated MAC clients; and

controlling data transmission by the MAC clients by providing transmission enable state variables to the OMP blocks connected to their associated MAC clients.

5. The multipoint gating control method of claim 4, further comprising the step of determining a value of a transmission enable state variable by driving a timer indicating a transmission start time and a transmission stop time, and providing a transmission opportunity by delivering the value to a corresponding OMP block.